PHILOSOPHY 348
Perception, Cognition and the Brain
Fall 2017

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Meeting: T/R 9:30-10:45 MM 108

Required Text
Friedenberg, J. & Silverman, G. (2016). *Cognitive science: An Introduction to the Study of Mind*. Sage Publications.

Optional:
Bermudez, J. (2010). *Cognitive Science: An Introduction to the Science of the Mind.* Cambridge University Press.

Further supplementary readings will be indicated on an ongoing basis, as we progress through our topics.

Required APP (for applied approach)
Relationship Barometer (http://relationshipbarometer.com/)

Course Description

This class is an introduction to the study of the mind. The mind is the place for perception, reasoning, decision-making and emotions. The mental states we form shape our behavior and our interactions with other people. We will use the theoretical study of the mind to shed light on our interactions with other people in relationships. How can our knowledge of how the mind help improve our relationships? How can it help motivate us and improve our wellbeing? In this class we aim to answer these questions by studying the mind theoretically and then applying this knowledge to our daily interaction with other people.

Course Requirements

Mid-semester you must hand in a draft of your term papers (no length-requirement but minimally an outline). This will be evaluated as a draft, not as a final paper. The draft will be worth a maximum of 30 percent of your grade. Your two final term papers (5 pages each) are worth 50 percent of your grade. Class attendance and participation are worth 20 percent. Final grades will be based upon performance on the term paper, attendance and participation, with such things as improvement in performance, extraordinary participation, homework, and willingness to seek help with course material being taken into account where appropriate.

Short writing assignments, projects and forum and virtual classroom participation will be graded on the following 0-100 point scale.

A 90-100 B 80-89 C 70-79 D 60-69 F 0-59

This grading scale was designed to fit the following interpretation of the various grades.

A A solid performance that reveals no fundamental shortcomings either in understanding or ability to work with the material.
B A few serious shortcomings (or perhaps a number of minor ones) but still clearly above a minimally acceptable performance.
C A minimally acceptable performance, probably revealing a good number of serious shortcomings.
D Unacceptable performance but with some evidence that something has been learned.
F Inexcusable.

Assignments and Evaluation

Term paper drafts .....30% (15% each)
Term papers.....….....….50% (25% each)
Participation and attendance.....……..……20%

The term papers are due at the last day of final's week. You must email copies to both instructors.

Paper format:
1. Critical review paper of one of the approaches (5 pages)
2 . Report of your experience with the Relationship Barometer (5 pages)

Course Schedule

When:	What:	Specifically:
Week 1 (Aug. 22 & 24)	**Introduction:** **What is cognitive science?** (Chapter 1)	- Representation and computation - The interdisciplinary perspective
Week 2 (Aug. 29 & 31)	**The philosophical approach** (Chapter 2)	- The contribution of philosophy to cognitive science - The mind/body problem - Physicalism, dualism and functionalism
Week 3 (Sept. 5 & 7)	**The philosophical approach** (Chapter 2)	- The hard problem of consciousness - Consciousness, neuroscience and binocular rivalry
Week 4 (Sept. 12 & 14)	**The psychological approach** (Chapter 3)	- The contribution of psychology to cognitive science - Structuralism, behaviorism, psychoanalysis: The early days of present-day psychology - Gestalt phenomenology, experimental psychology and perceptual grouping

Week 5 (Sept.19 & 21)	**The cognitive approach** (Chapter 4)	- Mind as an information processor - Modularity of mind - Theories of object recognition
Week 6 (Sept. 26 & 28)	**The cognitive approach** (Chapter 4)	- Computational vision and pattern recognition - Models of attention
Week 7 (Oct. 3 & 5)	**The cognitive approach** (Chapter 5)	- Types and models of memory - Visual imagery
Week 8 (Oct. 10 & 12)	**The cognitive approach** (Chapter 5)	- Problem solving - Artificial intelligence, problem solving and the SOAR model
Week 9 (Oct. 17 & 19)	**The neuroscience approach** (Chapter 6)	- The contribution of neuroscience to cognitive science - The methods of neuroscience - Basic neuroanatomy and neurophysiology
Week 10 (Oct. 24 & 26)	**The neuroscience approach** (Chapter 6)	- The neuroscience of (visual) object recognition - Perceptual binding and neural synchrony - The neuroscience of attention
Week 11 (Oct. 30 & Nov.1)	**The neuroscience approach** (Chapters 6 & 7)	- The neuroscience of memory - Neuroscience and networks
Week 12 (Nov. 7 & 9)	**The emotional approach** (Chapter 10)	- Emotions in cognitive science - Theories of emotion - Emotion, evolution and psychological disorders -
Week 13 (Nov.14 & 16)	**The emotional approach** (Chapter 10)	- Emotions and neuroscience - Emotion-cognition interactions - Affective computing - Emotions, robotics and the Kismet project
	THANKSGIVING BREAK	
Week 14 (Nov. 28 & 30)	**The social approach** (Chapter 11)	- Social cognition and social cognitive neuroscience - Joint attention and mirror neurons - Is social cognition the brain's default state?
Week 15 (Dec. 5 & 7)	**The social approach** (Chapter 11)	- Theory of Mind, autism and neuroscience - Game theory and the Prisoner's dilemma - Stereotypes and prejudice